



C16-EE-306

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**BOARD DIPLOMA EXAMINATION, (C-16)**  
**MARCH/APRIL—2018**  
**DEEE—THIRD SEMESTER EXAMINATION**  
**ELECTRONICS ENGINEERING**

Time : 3 hours ]

[ Total Marks : 80

**PART—A**

3×10=30

- Instructions** : (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

- \* 1. State the need for filter in DC power supply circuits.
2. Draw the circuit diagram of half-wave rectifier with capacitor filter.
3. (a) List any three applications of LED.  
(b) Draw the diagram of Zener voltage regulator.
4. Draw the symbol of opto-coupler and label the parts.
5. Draw the symbol of *n*-channel MOSFET and name the terminals.
6. List the causes for instability of biasing or Q-point for a transistor amplifier.
7. Classify amplifiers based on frequency, period of conduction and number of stages.

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8. Define <sup>\*</sup> bandwidth of an amplifier.
9. Classify different types of oscillators.
10. List any three measurements that can be measured using CRO.

**PART—B**

10×5=50

**Instructions** : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain the working principle of full-wave rectifier with center-tapped transformer using any one of the filter circuit. 5+5=10
12. (a) Explain the construction and working principle of UJT. 7  
(b) What is meant by negative resistance of UJT characteristics? 3
13. Explain the potential divider biasing method with diagram. 10
14. (a) Explain the principle of operation of 2-stage transformer-coupled amplifier with circuit diagram. 8  
(b) Explain frequency response curve of the above circuit. 2
15. (a) Draw the practical CE transistor amplifier and explain the function of each component. 8  
(b) Classify power amplifiers according to configuration used. 2
16. (a) Explain the need for multistage amplifiers. 4  
(b) Distinguish between voltage and power amplifier. 6
17. Explain the working of Harley oscillator with a neat circuit diagram.
18. Draw the internal block diagram of IC 555 and explain the function of each block.

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